

IN THE CLAIMSAmendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claim 1-60 (cancelled)

Claim 61 (Previously presented): A method for selective cytolysis of a target cell, comprising:

contacting said target cell with an adenovirus vector comprising a cell type-specific transcriptional regulatory element (TRE) operably linked to a first adenovirus gene essential for replication selected from the group consisting of E1A, E1B and E4, wherein when said adenovirus vector enters said target cell, expression of said adenovirus gene under control of said cell type-specific TRE occurs and selective cytolysis of said target cell results.

Claim 62 (Previously presented): The method according to claim 55, wherein said target cell is a cancer cell.

Claim 63 (Previously presented): The method according to claim 55, wherein said first cell type-specific transcriptional response element (TRE) is selected from the group consisting of a prostate specific antigen transcriptional regulatory element (PSA-TRE), a probasin transcriptional regulatory element (PB-TRE), a human glandular kallikrein transcriptional regulatory element (hKLK2-TRE), an alpha-fetoprotein transcriptional regulatory element (AFP-TRE), a carcinoembryonic antigen transcriptional regulatory element (CEA-TRE), and a mucin transcriptional regulatory element (MUC-TRE).

Claim 64 (Previously presented): The method according to claim 55, wherein said adenovirus vector further comprises a transgene.

Claim 65 (Previously presented): The method according to claim 58, wherein said transgene is a cytotoxic gene.

Claim 66 (Previously presented): The method according to claim 59; wherein said cytotoxic gene is HSV-thymidine kinase (HSV-tk) or cytosine deaminase (cd).

Claim 67 (Previously presented): The method according to claim 58, wherein said transgene is a cytokine gene.

Claim 68 (Previously presented): The method according to claim 61, wherein said cytokine is GM-CSF.

Claim 69 (Previously presented): The method according to claim 55, wherein said adenovirus vector further comprises the coding sequence for adenovirus death protein (ADP).

Claim 70 (Previously presented): The method according to claim 63, wherein the amino acid sequence for said ADP coding is presented as SEQ ID NO:10 or SEQ ID NO:11.

Claim 71 (Previously presented): The method according to claim 63, wherein said ADP coding sequence is inserted in the E3 region.

Claim 72 (Previously presented): The method according to claim 57, wherein said first cell type-specific TRE is a prostate specific TRE selected from the group consisting of a PSA-TRE, a PB-TRE and an hKLK2-TRE.

Claim 73 (Previously presented): The method according to claim 66, wherein said first cell type-specific TRE is a PSA-TRE.

Claim 74 (Previously presented): The method according to claim 66, wherein said first cell type-specific TRE is a PB-TRE.

Claim 75 (Previously presented): The method according to claim 66, wherein said first cell type-specific TRE is an hKLK2-TRE.

Claim 76 (Previously presented): The method according to claim 67, wherein said PSA-TRE comprises a prostate specific antigen enhancer and promoter.

Claim 77 (Previously presented): The method according to claim 67, wherein said prostate specific antigen enhancer comprises nucleotides -5322 and -3739 relative to the transcription start site of prostate specific antigen gene.

Claim 78 (Previously presented): The method according to claim 67, wherein said prostate specific antigen promoter comprises nucleotides -540 to +8 relative to transcription start site of prostate specific antigen gene.

Claim 79 (Previously presented): The method according to claim 55, wherein said adenovirus vector further comprises a second cell type-specific TRE.

Claim 80 (Previously presented): The method according to claim 73, wherein said first and second cell type-specific TREs are different.

Claim 81 (Previously presented): The method according to claim 73, wherein said first and second cell type-specific TREs are substantially identical.

Claim 82 (Previously presented): The method according to claim 73, wherein said target cell is a cancer cell.

Claim 83 (Previously presented): The method according to claim 73, wherein said first cell type-specific transcriptional response element (TRE) is selected from the group consisting of a prostate specific antigen transcriptional regulatory element (PSA-TRE), a probasin transcriptional regulatory element (PB-TRE), a human glandular kallikrein transcriptional regulatory element (hKLK2-TRE), an alpha-fetoprotein transcriptional regulatory element (AFP-TRE), a carcinoembryonic antigen transcriptional regulatory element (CEA-TRE), and a mucin transcriptional regulatory element (MUC-TRE).

Claim 84 (Previously presented): The method according to claim 73, wherein said adenovirus vector further comprises a transgene.

Claim 85 (Previously presented): The method according to claim 78, wherein said transgene is a cytotoxic gene.

Claim 86 (Previously presented): The method according to claim 79, wherein said cytotoxic gene is HSV-thymidine kinase (HSV-tk) or cytosine deaminase (cd).

Claim 87 (Previously presented): The method according to claim 78, wherein said transgene is a cytokine gene.

Claim 88 (Previously presented): The method according to claim 81, wherein said cytokine is GM-CSF.

Claim 89 (Previously presented): The method according to claim 73, wherein said adenovirus vector further comprises the coding sequence for ADP.

Claim 90 (Previously presented): The method according to claim 73, wherein the amino acid sequences encoded by said ADP coding sequence is presented as SEQ ID NO:10 or SEQ ID NO:11.

Claim 91 (Previously presented): The method according to claim 83, wherein said ADP coding sequence is inserted in the E3 region.

Claim 92 (Previously presented): The method according to claim 77, wherein said second cell type-specific TRE is a prostate specific TRE selected from the group consisting of a PSA-TRE, a PB-TRE and an hKLK2-TRE.

Claim 93 (Previously presented): The method according to claim 86, wherein said second cell type-specific TRE is a PSA-TRE.

Claim 94 (Previously presented): The method according to claim 86, wherein said second cell type-specific TRE is a PB-TRE.

Claim 95 (Previously presented): The method according to claim 86, wherein said second cell type-specific TRE is an hKLK2-TRE.

Claim 96 (Previously presented): The method according to claim 87, wherein said PSA-TRE comprises a prostate specific antigen enhancer and promoter.

Claim 97 (Previously presented): The method according to claim 90, wherein said prostate specific antigen enhancer comprises nucleotides -5322 and -3739 relative to the transcription start site of prostate specific antigen gene.

Claim 98 (Previously presented): The method according to claim 87, wherein said prostate specific antigen promoter comprises nucleotides -540 to +8 relative to transcription start site of prostate specific antigen gene.